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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,207	02/26/2002	Ben-Chuan Du	742433-0026	4668

22204 7590 03/02/2004

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EXAMINER

NGUYEN, LAM S

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

H.b

Office Action Summary	Application No.	Applicant(s)	
	10/082,207	DU ET AL.	
	Examiner	Art Unit	
	LAM S NGUYEN	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 07/15/2003 6) ☐ Other: _____

DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in 10082207 on 02/26/2002. It is noted, however, that applicant has not filed a certified copy of the 10082207 application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 15-16, 18-21, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Yano et al. (US 5914731).

Yano et al. disclose a printing apparatus comprising a print head for scanning over a printing medium, said print head comprising a printing element set comprising M printing elements for selectively forming images on said printing medium, wherein M is a positive integer (FIG. 26: 128 HEATERS);

a timing device, in response to a reference timing sequence (FIG. 28, S112: stored in a basic driving pulse) and a random value series (FIG. 28, S113: 16 numbers of random numbers from random number table) for generating N sets of driving timing sequence (FIG. 26: a timing sequence of signals H1-16), said random value series including N random values (FIG. 28, S113: N=16), each N sets of driving timing sequence being obtained by shifting said reference timing sequence with corresponding one of N random values (FIG. 28: each set of

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heat signal H1 to H16 in step S114 is derived from the basic driving pulse in step S112 and the random number in step S113), wherein N is a positive integer; and

a driving device, in response to said N sets of driving timing sequence, for driving forming said image (FIG. 26-28: heat pulses H1-H16 for driving the heaters in printing operation);

wherein each set of driving timing sequence sequentially drives the M printing elements (FIG. 26-29).

Referring to claims 16 and 21: wherein said timing device respectively adds N random values to said reference timing sequence to generate said N set of driving timing sequence (column 18, line 1-14).

Referring to claim 16: further comprising a unit for generating said random value series, said random value series being transmitted to said timing device via a transmission protocol (FIG. 27, 30, element 1703).

Referring to claims 19, 23: wherein said print head is an ink jet head to perform printing (FIG. 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 17, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yano et al. (US 5914731) in view of Iwasaki et al. (US 6142598).

Yano et al. disclose the claimed invention as discussed above except wherein said timing device respectively multiplies N random values to said reference timing sequence to generate said N sets of driving timing sequence.

Iwasaki et al. disclose a printing apparatus in which printing elements are driven by a driving timing sequence that is generated by multiplying a reference timing sequence to a variation value sequence (column 5, line 5-49) in order to eliminate the printed image unevenness that cyclically appears due to variations in the manufacturing errors (Abstract).

Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the method of deriving the driving timing sequence as disclosed by Yano et al. by, instead of adding, multiplying the reference timing sequence to the random value sequence as disclosed by Iwasaki et al. The motivation of doing so is to eliminate the printed image unevenness that cyclically appears due to variations in the manufacturing errors as taught by Iwasaki et al. (Abstract).

Response to Arguments

Applicant's arguments with respect to claims 15-23 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S NGUYEN whose telephone number is (703)305-3342. The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D MEIER can be reached on (703)308-4896. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

LN

February 8, 2004


HAI PHAM
PRIMARY EXAMINER